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Economic Efficiency and Profitability of Social Banks

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Abstract

The financial crisis of 2008 provides evidence for the instability of the conventional banking system. Social banks may present a viable alternative for conventional banks. This paper analyzes the performance of social banks related to the bank business model, economic efficiency, asset quality and stability by comparing social banks with banks where the difference is likely to be large, namely with the 30 global systemically important banks (G-SIBs) of the Financial Stability Board over the period 2000-2014. We also analyze the relative impact of the global financial crises on the bank performance. The performance of social banks and G-SIBs is surprisingly similar.

Keywords: Social banks, alternative banks, bank stability, bank efficiency, financial intermediation.

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1 Introduction

The recent financial crisis of 2008 has shed some light on the vulnerabilities and fragilities of the conventional banking system. Major banks went bankrupt in Europe as well in the US. There were runs on mainstream banks rarely seen since 1920s and 1930s. Bank lending decreased sharply (Ivashina and Scharfstein (2010)). The global financial system suffered a meltdown. Funds provided for bailouts of too-big-to-fail banks lead to the deterioration of public finances in Europe and the European response of fiscal consolidation and austerity lead to a further worsening of inequality across Europe (Kaltenbrunner, Dymski, Szymborska (2015)). Major factors in the evident instability of the conventional banking system are the increasing financialisation, liberalization and globalization of financial markets.

Social banks may be able to provide an important alternative to conventional banks, in particular with respect to stability. During and after the financial crisis 2008, there was a potential of the banking industry to move more towards social banking. However, the evidence that this has happened is scarce. There is some agreement about the social banking's potential in the future (for example, a potential of 15.2 million customers in Germany (ZEB (2012), p. 1, Berger, R.). With the experience of the financial crisis fresh in mind, some authors have put social banking forward as a viable alternative to conventional banking (for example, Benedikter (2011)).

What are social, sometimes also called sustainable or alternative, banks? There is no universally agreed definition of social banks, but common themes are the focus of social banks on the real economy, consistent financial returns and strong capital positions (GABV (2014)). Social banking “focuses on achieving positive social, environmental and sustainability impacts; bases all its business and its operations on the achievement of positive social, environmental and sustainability impacts; uses financial products and services to achieve a blended value return.” (Weber (2014), p. 266). Additional features of social banking are the rejection of the profit-maximization principle, refraining from speculation, a focus on the common good and the real economy and a high degree of transparency (Remer (2014)).¹

In the European context, social banks, in one form or another, have been around for centuries. In the middle ages, monks founded Monti di Pieta, in essence a social bank that issued credit based

¹ See also Relano (2015).



on ethical considerations. (Milano (2011)). In Germany, savings banks with a social focus developed in the 19th century. Similar developments took place in France and the UK. See Milano (2011)

2 Social Bank Performance

In this paper we are interested in studying whether social banks are a viable alternative to conventional banks and whether and to what extent the performance of social banks is different from conventional banks. Instead of evaluating social banks' social, sustainability, environmental performance and their impact on the real economy, we ask whether social banks are able to meet financial and economic performance criteria that are usually applied to conventional banks. In addition, we investigate the impact of the global financial crisis 2007-2009 on the performance of social banks.

We compare the performance of 78 social banks with the performance of the 30 global systemically important banks (G-SIBs) of the Financial Stability Board (Financial Stability Board (2014)) because it is very likely that the differences between social banks and the G-SIBs is larger than for any other category of banks. Another reason of not using conventional banks as a comparison is that it is well known that conventional banks may try to adopt social banking principles (Remer (2014), p. 269) and offer social bank products, a fact that seems to be less likely for the G-SIBs.

We use several standard bank performance measures (European Central Bank (2010), Beck et al. (2013)) that are constructed from balance sheets and income statements to investigate the bank business model, economic efficiency, asset quality and stability of social banks. We now discuss the performance variables and their expected signs when comparing social banks with the G-SIBs.

Regarding the bank business model, we investigate whether social banks focus more on the conventional savings loans business. We look at three important aspects: (i) the interest versus non-interest revenue, (ii) retail versus wholesale funding and (iii) the loan-deposit ratio. Since we would expect that social banks are more involved in the traditional savings loans business, we hypothesize that social banks have a significantly higher interest versus non-interest revenue and a higher retail versus wholesale funding ratio. Since we expect social banks to predominantly use their deposits to issue loans, we also expect a lower loan-deposit ratio for social banks. In addition, due to mission of social banks, social banks may face restrictions in investing outside the real sector and may focus



more on lending. The overall impact of the social banks' business model on the loan deposit ratio may be ambiguous.

Regarding economic efficiency, social banks may put the common good before profit-maximization at the cost of lower profitability. Additionally, a lower reliance on speculative activities, a focus on traditional savings and loan products, dis-economies of scale, increased screening cost for social, ethical and sustainable projects may put social banks at a distinct disadvantage. However, given a lower degree of agency problems of social banks, monitoring costs may be lower. We look at two standard measures of efficiency, the cost-income ratio and the ratio of overheads to total assets. Due to a less pronounced profit maximization motive, perceived restrictions on non-real sector involvement and investment bank-like activities, scale dis-economies and extra screening costs for social and sustainable projects, we expect that social banks are less economically efficient than the G-SIBs.

Regarding the asset quality, we focus on standard measures of asset quality, (i) the loan loss reserves, (ii) loan loss provisions and (iii) total impaired loans, all normalized by gross loans. Keeping in mind that these standard asset quality measures do not take into account the nature of the assets, there is no clear theoretical prediction whether the asset quality offered by social banks is relatively better. We do not expect that the assets of social banks are of a higher quality than the G-SIBs.

Regarding bank stability, economic theory does not give clear predictions for social banks. However, social banks may be more stable due to the lower reliance on risky, speculative activities. If depositors have a higher incentive to monitor in social banks, moral hazard and adverse selection issues may be reduced. The focus on traditional savings and loan products may also be beneficial for the social banks' stability. However, if equity financing predominates in social banks, stability may be negatively affected due to the reduced market discipline (Diamond and Rajan (2011)). We look at four standard measures of bank stability. First, we focus on maturity matching by looking at a liquidity ratio, namely, the ratio of liquid assets to deposits and short term funding that gives some indication of the likelihood of bank runs. Second, we look at the z-score, a measure of the likelihood of bankruptcy, with higher z-scores indicating a higher degree of stability or lower likelihood of bankruptcy. The z-score is calculated as the sum of the return on (average) assets plus the capital asset ratio, all divided by the standard deviation of the return on assets computed over the sample period and, under the normality of profits, can be shown to be equal to the inverse of the probability of bankruptcy. (See, for example, Beck et al. (2014), Lepetit and Strobel (2015)). Third, we also look separately at the return on average assets and the capital assets ratio, that is, the equity to total assets ratio. We do not expect that social banks are more stable than the G-SIBs.



To the best of our knowledge, there are very few statistical or econometric studies on social bank performance.² This paper attempts to fill this gap. The plan of the paper is as follows. Section 2 describes the data set. Section 3 presents the results. Section 4 concludes.

2 Data

The data set is from the Bankscope data base of the Van Dijk Bureau. We obtain the consolidated accounts of the 30 banks listed in the 2014 update on the list of global systemically important banks (G-SIBs) (Financial Stability Board (2014)) between 2000 and 2014 (15 periods). We also obtain the accounts of 25 banks that are affiliated to the Global Alliance for Banking on Values (gabv.org) and a further 23 banks with an emphasis on social and ethical goals and sustainability in their mission. The 78 social banks are checked for their social, ethical and sustainability-related values using their respective websites. The data set therefore contains 78 banks with observations over the 15 time periods 2000 to 2014. For the social banks we use consolidated accounts if available. The accounts are converted into US\$ using the World Bank exchange rate at the date of the accounts.

3 Estimation of Bank Performance and Results

We first run two-sided t-tests for the equality of means between social and other banks, allowing for unequal variances social and other banks. The results are given in Table I. The first column displays the performance variables; the second column the number of observations, the third column the mean for social banks, the fourth column the mean for other banks and the last column displays the p-value of the test. If the p-value is smaller than the significance level of 1 percent, then the test rejects the null hypothesis of the equality of the means of the variable between social banks and other banks at the significance level of 1 percent. Similar statements hold for the other significance levels.

²GABV (2014) analyses social banks in the Global Alliance for Banking on Values and their impact on the real economy, resilience, returns and growth using descriptive statistics.



Table I: Two-sided t-tests of equality of means between social and other banks

<i>Variable</i>	<i>Number of Observations</i>	<i>Social Banks</i>	<i>Other</i>	<i>p-value</i>
Business Model				
Net fees and Commissions/Operational Income	689	.1477568	.3320929	0.0000
Non-deposit funding/Total funding	697	-80.39388	-58.68622	0.0000
Loans/Customer Deposits (%)	692	97.36347	90.19269	0.0998
Economic Efficiency				
Cost-Income Ratio (%)	722	70.28899	64.24267	0.0003
Overheads/Total Assets	723	.0384882	.0193315	0.0000
Asset Quality				
Loan Loss Reserves/Gross Loans	85	.0205289	.0017973	0.0000
Loan Loss Provisions/Gross Loans	659	.010074	.0081389	0.0497



Total Impaired Loans/Gross Loans (%)	534	3.884591	2.907675	0.0010
Bank Stability				
	724	28.25614	50.09455	0.0000
Liquid Assets/Deposits and Short term Funding (%)				0.0000
	720	37.46532		
Z-score			19.59944	
			.5962925	0.0008
Return on Average Asset (%)	722	.8565565		
			5.70563	0.0000
Equity/Total Assets (%)	724	8.936729		

The results of these tests are as follows. Regarding the business model, social banks are more involved the conventional savings and loans business than the G-SIBs. Net fees and commissions over total operational income and non-deposit funding over total funding are significantly lower and the ratio loans to customer deposits is significantly higher for social banks than for the G-SIBs.

Regarding economic efficiency, social banks are significantly less efficient than G-SIBs. This can be seen from the significantly higher cost income ratio and the higher overheads over total assets ratio for social banks than for G-SIBs.

Regarding asset quality, social banks enjoy a significantly lower asset quality than the G-SIBs as they have significantly higher (normalized) loan loss reserves, loan loss provisions and total impaired loans.

Regarding bank stability, the picture is mixed. Even though the liquid assets to deposit and short term funding ratio is significantly lower for social banks than for the G-SIBs, indicating a higher risk of bank runs for social banks, the z-score, return on average asset and the equity to total assets ratio is significantly higher for social banks than for the G-SIBs which indicates that social banks are more profitable and better capitalized than the G-SIBs.

The two-sided t-tests of equality of means of the performance measures seem to indicate that social banks are more involved in the conventional savings and loans business, are less economically efficient, have a lower asset quality, but appear to be more stable than the G-SIBs.

We now control for bank size, the opportunity cost of having non-earning assets, country (western versus non-western) and year and turn to regression analysis. In addition, we are interested in the relative performance of social versus G-SI banks during the financial crisis 2007-2009.

In the regression analysis, we first run the following random effects regression

$$Perf_{it} = \alpha + \beta_1 Log(TAss)_{it} + \beta_2 \frac{FAss_{it}}{TAss_{it}} + \beta_3 \frac{Non - inEarAss_{it}}{TEarAss_{it}} + \delta_{west} d_i^{west} + \delta_{social} d_i^{social} + \delta_1 d_i^{social} d_t^{crisis} + v_i + \varepsilon_{it},$$

where i denotes the bank and t denotes the time period, $Perf$ is the performance of the bank discussed above, $FAss$ are the fixed assets, $TAss$ are total assets, $Non-inEarAss$ are the non-interest earnings, $TEarAss$ are total earning assets, d_i^{west} is a dummy variable for a western bank that equals 1 if the bank has its headquarters in a Western country, d_i^{social} is a dummy variable for a social bank that equals 1 for a social bank and 0 otherwise, d_t^{crisis} is a dummy variable for the financial crisis that equals 1 for periods 2007 to 2009 and 0 otherwise, v_i is a bank specific heterogeneity term; and ε_{it} is the error term with the usual properties of ordinary least squares error terms; and Greek letters (except the errors ε_{it}) are coefficients to be estimated.

In Table II we display the results of these regressions. The first column in Table I displays the variables that measure the performance of the bank, $Perf$, the second column the number of observations, the third column the estimate for the social bank random variable indicating the relative (with respect to the G-SIBs) impact of the social bank indicator on the performance variable, the third column the estimate for δ_1 the interaction term of the dummy variable for social bank and the dummy variable for the financial crisis 2007-2009, indicating the relative impact of the social bank-crisis indicator on the performance variable and the last column the overall R^2 . The standard error of the estimate is given in brackets immediately below the estimate. The notation *** (**) [*] indicates a significance level of 1 (5) [10] percent.



Table II: Random Effects Regression

<i>Dependent Variable</i>	<i>Observations</i>	<i>Social Banks</i>	<i>Social Banks*Crisis</i>	<i>R² overall</i>
Business Model				
Net fees and Commissions/Operational Income	657	-.0215417 (.1135068)	.0099428 (.0657603)	0.0550
Non-deposit funding/Total funding	671	-25.59887*** (6.533843)	.325587 (.8964973)	0.1883
Loans/Customer Deposits (%)	670	-67.80685*** (21.31083)	-.3570432 (3.450691)	0.0742
Economic Efficiency				
Cost-Income Ratio (%)	686	-8.213655 (7.491143)	-.8355829 (2.462122)	0.0983
Overheads/Total Assets	687	-.0607224*** (.0070705)	-.0001611 (.0014135)	0.4105
Asset Quality				
Loan Loss Reserves/Gross Loans	85	.0090499* (.0047167)	-.0040473** (.0019387)	0.9284

Loan Loss Provisions/Gross Loans	641	.0096738** (.0048625)	.0001292 (.0011475)	0.0733
Total Impaired Loans/Gross Loans (%)	518	2.744528* (1.440719)	-1.364161*** (.5049742)	0.0420
Bank Stability				
Liquid Assets/Deposits and Short term Funding	689	-36.03727*** (13.76137)	-4.518461 (4.069451)	0.2682
Z-score	685	13.11544 (9.496502)	.8157344 (.9962115)	0.0812
Return on Average Asset	686	-1.388623*** (.3041193)	.0405079 (.0839471)	0.3467
Equity/Total Assets (%)	689	-4.195204*** (1.269582)	-.13381 (.3369841)	0.3226

Note. The estimates for the control variables log of total assets, fixed assets/total assets, non-loan earning assets/total earning assets and the dummy for western country are not shown.

The results of these random effects regressions are as follows. Regarding the bank business model, social banks still appear to be somewhat more involved the conventional savings and loans business than the G-SIBs. Non-deposit funding over total funding and, contrary to the tests before, the ratio loans to customer deposits is significantly lower for social banks than for the G-SIBs. Regarding economic efficiency, social banks are significantly more efficient than G-SIBs, in the case of the significantly lower overheads over total assets ratio. Regarding asset quality, social banks still enjoy a significantly lower asset quality than the G-SIBs as they have significantly higher (normalized) loan loss reserves, loan loss provisions and total impaired loans, but with a reduced significance level.

Regarding bank stability, the picture is now changed. The result on the maturity matching remains the same. The liquid assets to deposit and short term funding ratio is significantly lower for social banks than for the G-SIBs, indicating a higher risk of bank runs for social banks. The z-score is now insignificantly different. In contrast to before, the return on average asset and the equity to total assets ratio is now significantly lower for social banks than for the G-SIBs which indicates that social banks are now significantly less profitable and significantly less capitalized than the G-SIBs.

To summarize, the results of the random effects regressions seem to indicate that social banks are more involved in the conventional savings and loans business, are more economically efficient, but now only for the overheads to total assets measure. The results on the asset quality remain the same, that is, social banks have lower asset quality. In contrast to before, social banks now have a significantly lower return on average asset and equity to total assets ratio.

The results on the impact of the social bank-crisis indicator are as follows. For many performance variables, there is no significant difference. However, the asset quality of social banks, that is the normalized loan loss reserves and total impaired loans, seem to significantly improve relative to the G-SIBs over the global financial crises periods 2007-2009.

As a robustness check, we also run ordinary least squares (OLS) regressions, ignoring bank-specific heterogeneity, but introducing country-year-fixed effects,

$$Perf_{it} = \alpha + \beta_1 Log(TAss)_{it} + \beta_2 \frac{FAss_{it}}{TAss_{it}} + \beta_3 \frac{Non-inEarAss_{it}}{TEarAss_{it}} + \delta_{west} d_i^{west} + \beta_{country,t} Country_i * year_t + \delta_{social} d_i^{social} + \delta_1 d_i^{social} * d_t^{crisis} + \varepsilon_{it},$$

where the notation is as above and the term Country*year are the country-year fixed effects.



Table III: Ordinary least squares regressions with country-time controls.

<i>Dependent Variable</i>	<i>Observations</i>	<i>Social Banks</i>	<i>Social Banks*Crisis</i>	<i>Adj. R²</i>
Business Model				
Net fees and Commissions/Operational Income	657	.0741455 (.1501204)	-.293592** (.1353841)	0.1001
Non-deposit funding/Total funding	671	7.045682 (4.320218)	-1.997096 (3.953417)	0.6159
Loans/Customer Deposits	670	11.79107 (10.42916)	10.83958 (9.543687)	0.6745
Economic Efficiency				
Cost-Income Ratio (%)	686	-5.093975 (6.168323)	-20.48047*** (5.668302)	0.2134
Overheads/Total Assets	687	-.0195935*** (.0039984)	.0019198 (.003663)	0.8268
Asset Quality				
Loan Loss Reserves/Gross Loans	85	.0326952 *** (.0055529)	-.0195801 *** (.0031127)	0.9808
Loan Loss Provisions/Gross Loans	641	.01545*** (.0024607)	-.0026853 (.0023256)	0.6140

Total Impaired Loans/Gross Loans (%)	518	4.378838*** (1.02018)	-.3872608 (1.117799)	0.4073
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Bank Stability

Liquid Assets/Deposits and Short term Funding	689	-39.78805*** (11.57642)	-3.923217 (10.70561)	0.2704
Z-score	685	5.312103 (8.058389)	-3.698165 (7.390911)	0.3411
Return on Average Asset	722	-.1758637 (.1345257)	.31261** (.1233864)	0.8293
Equity/Total Assets (%)	689	-1.887798** (.915213)	.9023256 (.8463678)	0.5202

Note. The estimates for the control variables log of total assets, fixed assets/total assets, non-loan earning assets/total earning assets, the dummy for western country and country-time effects are not shown.

The results of the OLS regressions seem to indicate that there is now no significant difference regarding the business model of social banks and G-SIBs. Social banks are more economically efficient, again, for the overheads to total assets measure. The results on the asset quality remain the same, that is, social banks have lower asset quality. Regarding bank stability, social banks have now only a significantly lower equity to total assets ratio.

The results on the impact of the social bank-crisis indicator for the OLS regression are similar than before. However, now net fees and commission over operational income and the cost income ratio are negatively, the return on assets is positively and normalized total impaired loans are insignificantly impacted by the social bank-crisis indicator.



4 Summary and Conclusions

This paper analyzed the performance of 78 social banks using 12 different measures related to the bank business model, economic efficiency, asset quality and stability by comparing social banks with banks where the difference is likely to be large, namely with the 30 global systemically important banks (G-SIBs) of the Financial Stability Board over the period 2000-2014, using two-sided t-tests, random effects and ordinary least squares (OLS) regressions. We also analyze the relative impact of the global financial crises on the bank performance.

Even though we do not use performance measures related to social, environmental and sustainability goals where social banks enjoy a comparative advantage, focusing narrowly on standard bank performance measures, social banks perform surprisingly well. The performance of social banks and the global systemically important banks is very similar, as we summarize below.

Concerning the business model, there is some evidence that social banks are focused more on the conventional savings and loan business model, using the t-tests and the random effects regressions.

Regarding the economic efficiency of social banks, there is evidence that social banks are relatively more economically efficient than the G-SIBs since in all regressions the overheads to total asset ratio is significantly lower for social banks than for the G-SIBs. However, cost to income ratio is insignificant in all regressions.

Regarding asset quality, there is strong evidence that social banks enjoy a significantly lower asset quality in all specifications, that is, t-tests, random and OLS regressions.

Regarding bank stability, the measure of the likelihood of bankruptcy of social banks, the z-score, is insignificantly different from that of the G-SIBs in all regressions. There is some evidence that social banks are significantly less capitalized than G-SIBs since the equity to total assets ratio of social banks is significantly lower than that of the G-SIBs in all specifications. Similarly, there is evidence that social banks are significantly more prone to bank runs since the measure of maturity matching (liquid asset ratio) is significantly lower for social banks than for the G-SIBs in all specifications.

Regarding social banks and the global financial crisis 2007-2009, there is strong evidence that asset quality of social banks as measured by normalized loan loss reserves significantly improved relative to the G-SIBs over the period of the global financial crises in all specifications.

Focusing on standard performance measures, we can see that social banks present a credible alternative to standard banks. Taking social, environmental and sustainability goals into account, the case for social banks is likely to be more pronounced. From an European perspective, there is a large potential in social banking. Although the social banking sector is relatively small, for example, social banks reach less than 1 % of all possible banking customers in Europe (Remer (2014), p. 268), social banks have experienced some success in increased numbers of consumers and profitability (Hayday (2014)). Many social banks are now associated with organizations like the European Federation of Ethical and Alternative Banks (FEBEA), the Global Alliance for Banking on Values (GABV) (Niven (2014)), the Institute for Social Banking, Institute for Social Banking (ISB) and International Association of Investors in the Social Economy (INAISE). It is clear that social banks have an important role to play in the future of the European banking industry (Dymski and Kaltenbrunner (2014)).

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